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XXXIV.—*The Birds of Sind.* (Part ii.) By CLAUD B. TICEHURST, M.D., M.A., M.B.O.U., late Capt. R.A.M.C.*

***Lanius excubitor lahtora* (Sykes).**

Common and resident; avoiding better cultivated and swampy parts, also forest, the Great Grey Shrike is a true denizen of the desert, and may be found anywhere where a few scattered bushes or euphorbia supply it with a perch. Each bird seems to have its own beat, and resents intrusion from its own and other species. The chief food appears to be beetles and lizards, though doubtless young birds do not come amiss, and Mr. Bell says that the large ant, *Myrmecocystus levis*, is eagerly taken. The only larder I came across consisted of a lizard's head stuck on a thorn of a euphorbia. Nesting begins at the end of February, and the nest is often placed in the top of a euphorbia.

A series measure: wing 110–117, tail 117–129 mm. in adults.

The black frontal line is always present, 4–5 mm. wide, narrower in first winter plumage: the black lesser wing-coverts are slightly tipped with grey, especially on the carpus, but usually less than in *pallidirostris*.

* For Part i. and map, see pp. 526–572.

Lanius excubitor pallidirostris Cassin.

There are various records of this bird in Sind; in the 'Fauna' it is stated that there is in the British Museum one from Daulatpur, near Sehwan, and one from Karachi (Gould coll.). Both of these I have examined; the Karachi bird is, I think, undoubtedly correctly named, but I am more than doubtful of the other one; it has a large bill and a black frontal band and a very small amount of grey on the lesser coverts just like many *lahtora* show; it was obtained in January 1855. There is a third bird from Ghizeree, near Karachi (Gould coll.), which is said to belong to this race: on examination I find that it is a very worn juvenile just beginning to moult, and so obviously obtained in the hot weather, when one would not expect to meet this race in Sind; also the lesser coverts which are in the quill are quite black: I think there can be little doubt that this, too, is a specimen of *lahtora*.

This race, which breeds in Beluchistan, is of course not unlikely to occur in winter or on passage in Sind, and would be easily overlooked among the great numbers of the resident *lahtora*. I did not meet with it so far as I know.

Lanius vittatus Valenc. "Boro."

The Bay-backed Shrike is common; eschewing quite bare desert which *lahtora* haunts, it may be met with almost anywhere where a few trees and bushes supply its requirements. In sparsely-wooded parts, such as the scanty desert scrub-jungle met with in many places, it is commoner than *erythronotus*; but as soon as cultivation or better-wooded parts are entered, the latter more or less takes its place, and Mr. Bell's experience tallies pretty well with mine. Taking Sind as a whole, this species is resident, but I think it is subject to local migration, as it was always commoner round Karachi in winter than in summer; Mr. Whistler tells me it is a summer visitor only to north Punjab.

The earliest nest I found was on 22 March with fresh eggs, and I have seen young on the wing on 11 April. It certainly breeds twice, probably three times, as I have found

fresh eggs on 18 June ; Barnes records nests in August. The "babool" and "kandi," both thorny trees, are almost invariably selected, and the nests may be from three to twenty-five feet from the ground. One nest, a very pretty though conspicuous object, was composed of little else than Dove's feathers, and it was not surprising, therefore, that the eggs had been sucked.

The Sindhi name for this bird means "the deaf one," no doubt applied to it on account of its confiding and fearless habits ; but this name is, or was, applied also to quite a different bird.

The plumages of this bird are little understood, and are difficult to interpret. The adults are alike in both sexes, save that the female has rather a narrower black forehead. The juvenile is typical of all Shrikes and is very variable ; some hardly show any trace of squamation on the under parts, and the upper parts vary a good deal in colour ; the wings and tail are quite different from the adult's, the former being brown with no white speculum and the latter light bay, the outer tail-feather being rusty white, all with subterminal narrow black wavy markings. The body-feathers, a variable number of wing-coverts, and the tertials are moulted, also the central and sometimes other tail-feathers. In this, the first winter plumage, the bird is a dull edition of the adult, but it totally lacks the black forehead and the ear-coverts are brown ; it presumably moults to adult dress the next spring.

Lanius schach erythronotus (Vig.).

The Rufous-backed Shrike is a constant resident, and I was unable to detect any migratory movement of any kind. It is much more a bird of cultivation than is *vittatus*, while both equally affect forest and scrub-jungle ; in the desert proper, however, this species is but seldom seen, and therefore it is rather less widely distributed than its smaller relative ; however, in the better cultivated parts it is numerous enough. It occurs out to the Beluchi boundary, where on the Habb River I saw young on the wing on 16 June.

It is an early breeder, and first nests may be looked for at

the end of March : Mr. Bell records a nest with five eggs on 24 March, and I have found four half-feathered young on 13 April. I think at least three broods are reared in the season; in one instance which came under my observation the same nest was utilized for the second brood, which had three young in it on 31 May, and fresh eggs may be found early in June.

This species is subject to very great individual variation in coloration of plumage; the rust-red of the scapulars, lower back, rump, and flanks varies very much in depth of colour, as does the grey of the mantle; also the wing-spot at the base of the primaries may be well-defined or absent—apart from sex or age.

Wings measure (8 males) 89·5–92·5; (8 females) 89–91·5 mm.

The young moult their juvenile body plumage, usually the tertials, always the lesser, median, and inner greater coverts, and, I think, the central tail-feathers; they may then be recognized from adults by the browner primaries and primary-coverts, which are not black as in adults.

***Lanius collurio* L.**

The Red-backed Shrike is an addition to the avifauna of Sind; in September 1875, Butler found it fairly common at Deesa, east of the Rann of Cutch, on autumn passage, and therefore I expected it to turn up in Sind. The only other Indian records are from Gilgit, also on autumn passage.

The first I obtained was an adult female on 1 October, 1918, at the Sewage Farm at Karachi, and it was the only one which came under observation that year. On 8 September, 1919, I secured an adult male in some scrub-jungle in the desert near Karachi, and saw several more on the 12th. Probably it arrives in larger numbers, or rather more are induced to halt, in those autumns when there has been some rain, which has enabled such plants and bushes as are in the desert to put forth some signs of life—a circumstance which certainly occurs in the case of the Common Whitethroat and, perhaps, all passage migrants.

This is one of those species which fringe western India on their autumn passage to gain their winter quarters via the Arabian route (Yemen, Sept.) but do not seem to halt on the return passage in spring.

In the field this species may be recognized from the common *vittatus* by the absence of the white speculum in the wing and the great amount of white in the tail.

As I have already pointed out in the 'Birds of Mesopotamia' (J. Bombay N. H. S. xxviii.), the supposed eastern race *L. kobylini* of Buturlin is not good; specimens from the Caucasus (type-loc.), Mesopotamia, Persia, and India differ in no constant way from European examples.

***Lanius cristatus phœnicuroides* Severtz.**

In Sind, as in the Punjab, Beluchistan, and probably Mesopotamia, this Shrike, unlike *isabellinus*, is purely a passage migrant; it passes through in small numbers from mid-September to mid-October, and like several others which take the Arabian route, misses on spring passage. So far as I can ascertain from specimens in the British Museum, this bird does not winter in India. The first record is that of one obtained by Dr. Gould at Hyderabad and figured in 'The Ibis,' 1867, p. 224, pl. v. fig. 11, under the name of *isabellinus*; it is a beautiful adult of this race. Murray obtained one at Kotri, which was recorded (S. F. vii. p. 13) as *cristatus*. This latter race does not occur in Sind, and Mt. Aboo is about its limit west.

These Shrikes come with the Red-backed, and I have usually found them in old cultivation and desert scrub-jungle; in the field these two in the immature stage are very difficult to tell apart; in the hand, *phœnicuroides* is less barred, less rufescent above, the tail is paler rufous, and the outer web of the outer tail-feathers is rufous, not white.

Twelve adult males in the British Museum measure: wing 91-96.5; tail 78-83, occasionally 85 mm. A similar number of adult males of *isabellinus* show that this has a longer tail (82-88 mm.) but not a longer wing.

Hitherto I have followed Dr. Hartert (Vög. pal. F.) in

considering all the Red-tailed Shrikes as races of one species, but I had not then read what Severtzoff wrote (see Ibis, 1876, p. 187) on this most difficult group. He is quite definite that both *phænicuroides* and *isabellinus* breed in the Semiretchensk district of Turkestan, and my own researches lead me to believe that both breed also in the Tchimkent district (Syr Darya Province). Severtzoff got rather confused on what he called varieties of *phænicuroides*, but so far as I can make out from his descriptions, his *montana* and *ruficeps* are *individual* varieties of the bird; on the other hand, he is quite definite that another variety—*caniceps*—replaces *phænicuroides* in the steppes and lowlands, the latter being a bird of the highlands; and he mentions the valley of the Syr Darya, Mi, and Lepsa (S.E. of Lake Balkash) as localities, all below 1000 feet. There are two specimens which correspond well with his description of *caniceps* in the British Museum from Sary-su in the Kirghiz Steppes, and I obtained a third, an adult male, on 26 October, 1918, at Karachi which matches these well. These all differ remarkably from typical *phænicuroides* in having the head and rest of the upper parts uniformly grey.

Whether *caniceps* is a geographical race or only an individual variation cannot with certainty be stated until we know more of its exact range, both altitudinal and horizontal; in any case, *caniceps* cannot be used for it as the name is preoccupied by Blyth (J. A. S. B. xv. p. 302, 1846).

Lanius auriculatus (= *L. niloticus*), recorded from Daulatpur by Murray, was in reality sent to him by Mr. Cumming from Bushire!

Lanius isabellinus H. & E. "Mulhalo."

Hume says that he found this species abundant to a degree throughout Sind; avoiding the more richly cultivated and irrigated portions of the country, it is to be met with perched on the topmost twig of almost every other bush in the barer districts of the province. This is, I think, somewhat of an exaggeration; it certainly is by no means rare, but I have found it rather local in its distribution. The sort

of country it likes best is where cultivation tails off into desert, where the ground is rather bare but yet where there are still plenty of bushes; absolute desert it does not care for, a part inhabited almost exclusively by *lahtora*—as Blanford also noted in the Thar and Parkar district. In the immediate neighbourhood of Karachi, probably the barest part of Sind, it is rather a rare bird except on passage; but even in the more suitable places in central Sind, where I have seen it most plentifully, I should consider a dozen in the day about the number one would notice.

This Shrike is a winter visitor to Sind, arriving about the beginning of September (earliest 30 August), and at this time they are more numerous round Karachi than at any other, and it seems likely, therefore, that some are on passage for farther south. The first arrivals appear to be young birds. They leave again in March (latest 8 March).

Its chief food appears to be beetles, but also the large ant, *Myrmecocystus levis*, as Mr. Bell noted. In Lower Sind, in parts where it is not abundant, the few one sees are very often in tamarisks.

A series of males measure: wing 90–95, tail 82–88 mm. The second primary is equal to, or just longer or shorter than, the fifth.

Tephrodornis pondicerianus pallidus Tiechurst.

In the better cultivated parts of the province, especially in the “babool” forests, the Wood-Shrike is tolerably common; elsewhere it is hardly met with, though anywhere in the desert where “babool” groves occur a few pairs may be found. It is quite resident, and is found throughout Sind right up to the Beluchi boundary, which seems to be the limit of its distribution westwards. The nesting-season extends from the end of March to the end of June.

So far as I observed, this is a quiet, tame little bird, and as unobtrusive as is its coloration; though it usually seeks its food in trees, I have at times seen it picking about on the ground under trees; it is generally met with in pairs, sometimes in little parties of three or four.

In Bull. B. O. C. xli. p. 56, I separated the north-west Indian bird as *pallidus*, from the paler grey of the upper parts and ear-coverts as compared with the southern Indian bird; it extends to Jodhpur, Mt. Aboo (Rajputana) south to Khandeish, Punjab to Simla, Ambala and western United Provinces: the typical race is found in Madras, eastern Central Provinces, Behar, Bengal, Nepal, Upper and Lower Burma.

***Pericrocotus brevirostris brevirostris* (Vig.).**

The Short-billed Minivet is a straggler in winter from the Himalaya. Murray first recorded it from Laki in December 1877. Mr. Bell says he saw a pair in the Abad Forest (15 m. north of Sukkur) on 8 February, and on 8 December, 1918 I obtained a single female in the high tamarisk forest of Bindi Dhareja just north of that town. Mr. Ludlow informs me he has once seen it at Malir near Karachi. Fairly common in the southern Punjab, it may be commoner in Upper Sind than these records indicate.

Mr. Stuart Baker correctly points out (Journal Bombay N.H.S. xxvii. p. 695 footnote) that Mr. Bangs has erroneously fixed the type-locality of the typical race in the eastern Himalaya; it should, of course, be in the western part of the range: thus the needless synonym *javillaceus* has been created.

***Pericrocotus roseus roseus* (Vieill.).**

On 11 December, 1919, I shot a female Rosy Minivet at the Karachi Sewage Farm; it was with two others, also in female dress, and they were constantly being bullied by a male *P. peregrinus*. I at first mistook my bird for an immature female *brevirostris*, but in the hand it is easily distinguished by the shorter wing, larger bill, whiter underparts, and in lacking the yellow on the forehead and rump.

The occurrence of this Minivet in Sind and its south-western corner is not a little remarkable. There are but few records of it from the plains of India at all, and Mr. Whistler tells me he has only three records from the foot-hills

even of the Punjab. It may no doubt be easily overlooked from its close resemblance in the field to *brevirostris*.

***Pericrocotus peregrinus pallidus* Baker.**

The Wandering Minivet is resident and fairly common wherever, even in the more desert parts, sufficient trees for its requirements are found. It is principally a bird of the acacia "babool" though also met with in other trees, as well as in mango and guava plantations. It is rather a local bird, and one may wander some time through groves and forest without coming across one; but when met with in winter it is always in a small party of six to eight individuals, and at such times I have always noted that females predominate to the extent of about four to one male, unless it be that these birds do not acquire adult male plumage in the first year, but of this I have never seen any proof. The flocks keep rather to the sunny aspect of the tree-tops, whence they sally out at times to take insect prey in flycatcher-fashion, while in the breeding-season the male may be frequently seen perched on the tip-top ere he launches forth in his display flight. I never was able to find the nest of this bird, but I believe it breeds in April and May: thus one obtained on 15 May was in breeding condition, while one on 26 May had commenced its post-nuptial moult.

Hume, fifty years ago, remarked on the paleness of Sind birds, as did also Oates in the 'Fauna.' In the Bull. B. O. C. xl. p. 115, Mr. Stuart Baker has separated the Sind bird as *pallidus*. There are two males and six birds in female dress in the British Museum, and these I have examined together with my series of two males and three females. I must say at once that the type of *pallidus* is an abnormally pale bird; but Mr. Baker has complicated the separation of what I believe to be an excellent racial form by fixing the type-locality of *P. p. peregrinus* as Ambala. Now, wherever Linnaeus obtained his specimen from, and it seems certain from his description (see also 'Stray Feathers,' v. p. 181) that it came from northern India, it almost certainly never came from anywhere in the Punjab. According to a map of

India, dated 1765, the territory then under British rule was Bengal, North Circars, Madras, and various ports on the western side, and it was not until well on into the next century that the Punjab came under our rule. Now, comparing Sind birds with those from Ambala (whence I have seen eleven), the characters relied on by Mr. Baker in the male are by no means constant; the throat is not always grey but sometimes quite as blackish as in Ambala birds; the amount of crimson on the breast, too, is very variable, and in this and the whiteness of the underparts Ambala and Sind birds are not to be distinguished; the coloured parts of the wings, tail, and under-wing are usually less rich in the Sind birds. The females are rather more distinct; the Sind birds have no trace of yellow on the underparts: the axillaries and under-wing, and the coloured parts of the wings and tail are paler; the paleness of the upper parts is not constant. The truth is that Ambala birds, as with other species thence, tend to partake of the desert character, and are neither typical *peregrinus* nor typical *pallidus*, but intermediates, as one nearly always finds on the limit of the range of two geographical forms. Had Mr. Baker restricted the type of *peregrinus* to western Behar or eastern United Provinces no difficulty would have arisen, and the distinctions he points out would hold good. *P. p. pallidus* extends to the Salt Range and Sirsa in the Hissa district of the Punjab.

***Pericrocotus erythropygius* (Jerd.).**

Twice in the "Itinerary" Hume recorded seeing this Minivet in Upper Sind, though apparently it was a slip for *peregrinus*, the common species, as he omits it from his Sind list, and five years later, in his review of the genus, he says "it has not yet occurred to my knowledge in Sind." That the White-breasted Minivet does occasionally wander to Sind, is quite certain however, as on 3 January, 1919, I came across a flock of one male and seven females on the Karachi Sewage Farm and secured specimens. The remainder were about the same place till 18 February, when they disappeared.

Oates in the Fauna Brit. Ind. alludes to one from Magrani (between Sukkur and Skikarpur) probably collected by Blanford.

The nearest locality to Karachi where this species is resident is Mt. Aboo and Deesa, some 350 miles east, mostly across desert, though it has been met with in Cutch.

[**Graucalus macei macei** Less.

Murray records obtaining the Large Cuckoo-Shrike near Sehwan in December, and the specimen is still in the Karachi Museum. If the locality is correct, this bird must be a rare vagrant to Sind, but it is significant the number of birds which Murray records from Sehwan which have not been since obtained anywhere else in Sind. It is said to be a local migrant in Kathiawar, coming to the plains only in winter. It is recorded from northern Gujerat, but not from Mt. Aboo, Cutch, or Lower Punjab.]

Oriolus oriolus oriolus (L.).

There is but one record of the European Golden Oriole in Sind; a specimen obtained by James in early September in a mango grove at Karachi was sent to Hume. This is another of those species which first fringe Sind alone of the Indian provinces on their passage from their breeding haunts farther north to their winter quarters in Africa. I never met with any Orioles in Sind myself, but I satisfied myself that some race of Oriole, either this or *kundoo*, does occur in quite small numbers from time to time at the seasonal migrations.

This race has been obtained on passage in Beluchistan. Murray (Vert. Zool. Sind) says that this species is a visitor to Sind in October and November. I know of no other record than the one given above, which seems to be the only one for India proper.

Oriolus oriolus kundoo Sykes.

Doig thought that the Indian Oriole bred in the Eastern Narra district in July and August, though he never succeeded in finding a nest. Murray says he obtained a specimen at

Sehwan in November. Butler records that it occurs occasionally in Lower Sind but is decidedly uncommon ; he had seen specimens from Karachi, Hyderabad, and the Eastern Narra ; there is a specimen in the Karachi Museum from Jhimpir. Orioles of any kind are evidently quite rare in Sind, and if it breeds it must be in the better wooded and cultivated parts of the province. The Indian Oriole is recorded once only in Cutch.

Pastor roseus (L.). "Bya."

The Rosy Pastor is a common winter visitor, very common in Lower Sind, less so in Upper Sind where it is chiefly perhaps a passage migrant. It is the earliest of all the winter birds to arrive and the last, except for some Waders, to leave. The first arrivals may be looked for between 13 and 21 July ; it leaves Lower Sind regularly about 6 May, a week later it has gone from Upper Sind ; it is thus absent a bare two months. From Sind it passes through the Quetta valley in mid-May and again early in August, and the same is recorded for southern Afghanistan ; others pass out of India through the valleys of the North West Frontier Province. On the Mekran coast Mr. Cumming tells me few may be seen on passage, and many pass through mid-Beluchistan. Farther west Dr. Aitcheson met with vast flocks in April near the north-east Perso-Afghan frontier ; farther west still, Mr. Woosnam noted it at the end of May at Burujird in north-west Persia, and its migration route lies north of the Mesopotamian plain to reach Syria, where Tristram saw flocks at Larissa going westward ; it breeds in Asia Minor. Thus we have in this remarkable westerly movement a migration almost without parallel, though rather similar to that of the Black-headed Bunting, among Indian birds.

That the Pastor is only absent for two months is not so very remarkable, as many Waders which go farther still afield to breed, are hardly absent longer.

The first Pastors to arrive are the adult males, and it is not until the end of the first week in August that the adult

females arrive, and up to this time only an odd young bird in brown dress is to be seen ; not till the third week in August do the latter come in any numbers, this was the case in both 1918 and 1919. The movements of the Pastor in winter are local and dependent entirely on food-supply. Usually to be found in cultivation, or where in jungle food may be found, I have occasionally seen them right away on the desert where a few scrubby bushes bore some yellow berries. They appear to be omnivorous and are voracious feeders, insect and fruit diets coming alike ; almost any kind of berries and fruits, grubs, "white ants," insects, and especially grasshoppers and locusts, are partaken of. Where a field of grass is being irrigated, a pink and black cloud of these birds quarrelling and chattering may be seen in attendance on the flooded-out insect life ; shortly before they depart they gorge themselves on the fruit of *Pithecolobium dulce*, swallowing the seed and pericarp indifferently.

When the Pastors first arrive they are in full but worn breeding-dress and at once begin to moult ; they are not fat. In such birds I have found incubation patches, and both sexes evidently take part. Before they leave they put on an enormous quantity of fat, and in the males the breeding organs become very large—almost to full breeding size—very much larger than in all other winter visitors with the exception of Geoffroy's and the Mongolian Sandplover. It was this unusual enlargement of the testes which led Doig to think that they might breed in Sind ; the ovaries of the females, on the other hand, though enlarged are not so markedly so, and not more so than is usual in other birds which stop late, such as all Waders. From March onwards the Pastor may be heard in song ; between spells of feeding or just before going off to roost a flock will repair to some line of tall trees, and basking in the sun several will start a typical Starling song, though different from that of *Sturnus* : it is a jumble of discordant grating noises with some rather melodious warbles intermixed.

When the same food attracts, the Pastor may be found feeding in company with Mynahs and Starlings, but at roost

they fly off in unmixed flocks, and the vast flights of Pastors and Starlings from the Sewage Farm across the city to the engine sheds of Karachi Cantonment Station, where they roost, was one of the ornithological sights of Karachi. The Pastor is, I think, in Sind a bird beneficial to agriculture. I saw no damage done by them; on the other hand, they must eat an enormous number of harmful insects. In the "Report on the food of the Jowari-bird" (as it is called in some parts) J. Bombay N. H. S. ix. p. 66, it is stated:—"The locusts in Sind in 1889-90 were reported to have been exterminated by Jowari-birds, which did not attempt to eat the locusts but snipped them in two and left them (!) . . . The Deputy Commissioner of Thar and Pashar reports (Dec. 21, 1891) that the Jowari-birds have materially assisted in clearing the district of locusts."

The juvenile plumage is moulted entirely, beginning with the wings and tail at the end of August, followed by the body in September and October; in colour the sexes are alike. For plumages see Pract. Hdbk. pp. 37-8, which account I can confirm. The brownish winter bill turns to pink in spring, and the base of the lower mandible to black; this part in the young bird is yellowish. The mouth of the adult male is dark plum-colour, greenish at the front of the palate; in the female these parts are duller.

Eleven males: wing 125-136; bill 24-26 mm. Seven females: wing 122-129; bill 23-24 mm.

Sturnus vulgaris poltaratskii Finsch. "Karo Whaheo."

A common but local winter visitor to Sind. Hume says he met with it in large flocks everywhere except in the most barren parts of the country. I think one might go even further than that and say that the Starling is only met with on permanently damp ground, that is, irrigated agricultural fields and the grassy edges of jheels, canals, etc. At Karachi it is the latest of all the winter visitors to arrive, very regularly during the last days of October and the first week of November. Great numbers haunt the Sewage Farm there all the winter, feeding on flooded-out insects in fields

which have just been irrigated. During the second week of March the numbers decrease, and the latest date on which I saw any was 25 March.

My series (14) are all very constant in coloration; the constantly purple head, throat and ear-coverts, and the green inter-scapular region with hardly any purple gloss, distinguish it from the typical form; it lacks the red-purple wing-coverts of *nobilior* and *dresseri*. The spotting of the upper parts is buffish, occasionally white as also in the typical race. Wings: ♂ 131-137, ♀ 127-128 mm. Bill from base: ♂ 26-29, ♀ 25-26 mm.

***Sturnus vulgaris nobilior* Hume.**

(=*poltaratskyi* of the 'Fauna' nec Finsch).

Next to the Common Indian Starling, the Afghan race is the commonest. At the time Oates wrote the 'Fauna,' the various races of Starling were not at all understood and he was only able to find three specimens of this race from India and so gives, so far as Sind is concerned, an erroneous impression of its status. At Karachi vast flocks frequented the cultivation at the Sewage Farm all the cold weather, and here I found this race common in company with *poltaratskii*; similarly I have shot both races at one shot on the lush margins of the Manchar Lake, and on other occasions *nobilior* and *dresseri* from the same flock. I was often able in a good light with glasses to pick out this race from its commoner relative by the plum-red gloss on the wing-coverts, while the adult male usually looks blacker owing to the fineness and paucity of the white spots in winter dress.

The series obtained (12) are pretty constant in their characteristics.

Seven males measure: wing 130-134; bill (base) 30.5-33.5, exp. 29-30.5 mm.

Five females measure: wing 127.5-132; bill (base) 30.5-32.5, exp. 27-30 mm.

The iris of the female, as in *vulgaris*, has a pale outer rim, as is also the case with *dresseri*, *poltaratskii*, and *porphyronotus*.

No Starlings except the resident *minor* acquire the yellow bill of the breeding season while in Sind, but I have obtained

one of this race in February whose bill was beginning to turn. This race probably arrives early in November with the others, and the latest date on which I have positively identified it, is 9 March.

***Sturnus vulgaris dresseri* But.**

I twice obtained this race—once, two birds from a mixed flock of this race and *nobilior* at One Tree Tank near Karachi, and a single bird in cultivation at Malir. They correspond well with *dresseri* in the Tring Museum.

***Sturnus vulgaris porphyronotus* Sharpe.**

A Starling which I obtained from a flock of *poltaratskii* at Karachi on 18 February, 1919 I assign, not without some hesitation, to this race. It is one of those intermediate birds which are most difficult to place. It is more violet on the mantle, not so purple as *porphyronotus*, and yet it is too green on the head for *dresseri*. *S. v. porphyronotus* must occur in Sind; it is common in south Punjab, and there is a bird in the Karachi Museum from Sind which I placed as this race. In all these races typical birds are fairly easy to distinguish once the differences are grasped, but in a series there will be found intermediates in the three races, *nobilior*, *porphyronotus*, and *dresseri*, and I think it is a question whether when, if ever, we see a large series of breeding birds from Afghanistan and Turkestan it will not be found that some supposed races are founded on individual variations.

Sturnus v. humei is recorded for Sind; there are no specimens thence in the British Museum nor does it occur in south Punjab.

***Sturnus vulgaris minor* Hume.**

The Sind Starling is a very local resident bird and we may search long and far before we meet with it. Hume was the first to obtain and recognize this Starling, which he found always in pairs “in the debatable ground between cultivation and desert” in the Larkhana district. Later on in 1878 Doig found many breeding along the E. Narra Canal in March. The nests were situated in holes in “kandi” trees (*Prosopis spiciopera*) on the banks of the canal and also in the middle of

swamps ; the eggs were laid on a pad of feathers of Spoon-bill and Painted Stork which were breeding in the same trees. The first eggs were found on 13 March, the last on 15 May ; the usual clutch was four, the largest five ; these birds were breeding over an area of 200 miles, but beyond four miles on either side of the canal were not to be found. Other breeding colonies must exist, but this bird is much dependent, as are other Starlings, on damp ground or cultivation and suitable trees, and so, no doubt, it moves about locally according to circumstances. Other places where it has been met with are near Rohri, Manchar Lake, and the Bhorthi Forest by Mr. Bell, who also saw many in April in tamarisk forest in the Jerruck division, and says it is not uncommon in places along the banks of the Indus. It certainly occurs as far north as Toji near Kashmore, whence I received a specimen in breeding state from Mr. Gordon on 15 May. At Jamrao Head on the E. Narra, as also round Rohri in December 1918 I failed to find it, but everything then was parched and scorched, and probably the birds, if there, had moved elsewhere, and I think failure of the monsoon in Sind explains the occurrence of this bird at Loyah near Etawah, some 700 miles east of its nearest known habitat, in January 1872 (Brooks), since when it has not again been found in India outside Sind.

In March 1919 I met with a pair on the canal bank running from Bubak to the Manchar Lake, and again on an island in the lake I found three pairs which I fancy were going to breed in holes in tamarisks there, though they had not yet begun. At this time of year they are easily distinguishable in the field from any other race as they are always in pairs, look small, and already early in the month they have acquired the yellow bill of the breeding season which the migratory races never assume in Sind. But although damp ground is essential for these birds, it is by no means everywhere, where these conditions obtain, that they will be found. I searched many likely localities in two and a half years, but this was the only occasion I came across it.

This race is the most distinct of all Asiatic races of

Starling, and the sheens are characteristic and constant. The winter spotting and the juvenile plumage are much the same as in the typical race, the size is smaller than in the other races. Wings measure 110–120 ; bill 25·5–27 ; tarsus 27·5–29·5 mm.

Iris in male brown, in female bright gold. Old records of *Sturnus ambiguus* and *purpurascens* in Sind refer largely to this race.

Temenuchus pagodarum (Gmel.).

Murray states that he shot a specimen of the Black-headed Mynah out of a flock of Rosy Pastors at Trainhi on the Manchar Lake on 27 November, 1877 ; Butler obtained one in the Lyarree Gardens at Karachi on 13 November in the same year. Barnes (J. Bombay N. H. S. v. p. 108), probably referring to these records, states that it is very rare in Sind.

I met with this species several times. At Malir 12 miles east of Karachi there is an extensive dry river on the banks of which a considerable amount of vegetable and mango cultivation is carried on, and here I found that a few pairs of Black-headed Mynahs are resident ; when I first discovered them on 15 May they were evidently nesting and were using old nesting-holes of the Sind Pied Woodpecker. They struck me as being peculiarly local, and it was only in two places in several miles of cultivation that I met with them, and they haunted the same spots the next year. In winter they would seem to wander locally, as I have twice seen single birds amongst flocks of Starlings, Pastors, and Mynahs at the Karachi Sewage Farm, viz. on 28 March and 29 December, 1919. I cannot differentiate Sind birds from those from the type locality.

Acridotheres tristis tristis (L.). “Myna.”

Like the House-Sparrow the Common Mynah is found throughout the Province in the immediate vicinity of habitations, and its numbers are in proportion to the latter. In bare desert and thick jungle it is rare or absent, and in some

remote villages very few may be met with, as at Dost Allee in Larkhana and Jungree in Karachi Kohistan. It occurs at the Habb River on the Beluchi frontier and in villages in Thar and Parkar. The earliest nesting I noted was in mid-April, and young are on the wing by 29 May, while I have seen it still building on 3 August. Besides the common sites for nests, in Karachi an old Crow's or Kite's nest is frequently made use of; one which I examined was an old Crow's nest which had been relined by the Mynahs.

A cinnamon variety came under notice at Karachi and wherever it went it was mobbed by others of its tribe. Sind birds do not differ in any respect from those from other parts of India.

***Acridotheres ginginianus* (Lath.).**

The Bank-Mynah is very much a bird of the Indus valley and canal areas, and is fairly common though somewhat local the whole length of Sind; Blanford noted it in the villages of the Thar and Parkar district, but at the south-west corner of the province it is only a sporadic visitor in cold weather, and then, I think, only in those years when the monsoon has failed and its wanderings are instigated by consequent shortage of food-supply. Be that as it may, there was no rain in Sind from July 1917 to July 1919, and the cold weather of 1918 was the only time I saw this species in the Karachi neighbourhood, when a flock or two turned up on 10 October and remained till 12 April following, frequenting the Sewage Farm and other cultivation.

Mr. Bell has supplied me with interesting notes on the nesting of this bird. He states that it breeds fairly commonly in the banks of the Indus, in old wells or in even quite low banks a few feet high, especially those of excavations for the Persian wheel. He found them building on 18 March and numerous eggs were taken on 1 April; the complete clutch varied from four to six.

The British Museum contains rather a poor series of this common Indian bird, but specimens from Sind, Bombay, Punjab, N.W. Frontier Province, Nepal, Kumaon, United

Provinces, and Behar are all similar: four birds from Bhutan are considerably darker than these on the upper parts, but as the colour tone varies much with wear, in the absence of a good series in fresh plumage I hesitate to recognize any races. Latham's type was said to come from "in regno ginginiano," but the species does not occur so far south (*i. e.* nr. Pondicherry).

I have a note that two specimens of *Æthiopsar fuscus* in the Bombay Museum were said to have come from Kotri; this must have been a mistake as this bird is certainly not found in Sind nor is it known from the Lower Punjab, Jodhpur, Mt. Aboo, or Cutch.

***Muscicapa striata neumanni* Poche.**

The Spotted Flycatcher is a passage migrant through Sind and usually turns up about the second week in September, though Hume recorded one from Kotri at the end of August; its passage lasts right up to the end of October and the last that I saw was a single bird on 5 November. Never very abundant, yet at the height of its passage by no means rare, it much affects the shade of "babools," though I once met with one quite out on the desert in a single "babool" tree. During spring passage it did not come under observation in two years, nor has Mr. Whistler met with it then in the Lower Punjab, though it passes through there in autumn.

All my specimens are typical *neumanni*, which is a pretty distinct race; the upper parts are much paler, under parts lighter, less heavily streaked and not so dark on the sides of the breast, as compared with the western (typical) form. Two adults at the end of September had not moulted their wings, one had moulted the tertials only, the other some of the secondaries and corresponding coverts. This is contrary to the usual rule, amongst adult migratory passerine birds, that the wings are moulted before migrating, and I noticed this exception also in other species in India. I have occasionally seen it in British migrants, but these were migrating very early and before any moult took place at all.

***Siphia parva parva* (Bechst.).**

In Lower Sind the chief status of the Red-breasted Flycatcher is that of a passage migrant; a few may overwinter, though the only winter specimen I saw was a single bird at Jamrao Head on the Narra Canal early in December. Hume recorded several near Sukkur on 30 December, the only time he met with it. Its times of passage are most marked; it arrives in autumn at the end of the first week in October and, never very common, single scattered birds may be met with in favourite haunts till mid-November; it repasses again quite regularly from the last week in March to the end of the second week in April (latest seen 17 April), and is commoner on this passage than in autumn. Butler too, found it common on spring passage in March and April at Hyderabad. It is not a conspicuous bird and one must know where to look for it; it is invariably found in shady places such as a line of well-grown "babools" or "peepuls" in cultivation,; in the desert I never met with it. It feeds in true flycatcher style, seldom going down to the ground as the Pied Flycatcher does, and its habit of flirting its tail up in Chat fashion and the white in the tail are conspicuous characters. It is curious that it should be rare in Sind in winter, as it is fairly common in the Punjab at that time.

All Sind specimens are typical *parva*. Examination of a considerable series of Indian birds leads me to differ somewhat from the account of the plumages given by Mr. Witherby (Pract. Hdbk. p. 296) in that the female in spring may, though not always, have some red on the chin and throat: thus one adult (26 March) has chin and throat as rich as an adult male (but the ear-coverts are brown); another adult (12 April) and one bird of the previous year (29 March) have these parts pale rusty red. I have never seen a female in winter with any red on the throat, so presumably it is acquired at the spring moult, which involves chin, throat, ear-coverts, and part of the crown, though all these parts are not moulted in every case. The males of the previous year in spring vary very much in the amount of red on the

throat, from none, or a faint tinge on the chin alone, to pale orange rust on chin and throat ; also they have brown not grey ear-coverts.

***Tchitrea paradisi turkestanica* Zar.**

The Paradise Flycatcher is a rare bird in Sind ; I only know of three records, though Murray says it is a winter visitor arriving in September. The first was obtained by Murray on 13 December, 1877, at Laki, and Barnes got another at Hyderabad. I obtained the third, a young female, in a guava plantation in the Lyarree Gardens at Karachi on 23 October, 1918.

I have examined a very large series of these birds, and those from Kashmir, Kandahar (April), Simla (Aug.), Murree, Shalugan (June), Kamptee, and Sind are paler than the typical race from Ceylon, and must I think stand as *turkestanica* Zar. (Orn. Monatsb. 1911, p. 85—Turkestan). I do not think Indian Peninsula birds are separable from Ceylon specimens either in colour or measurement (wing 90–97) and *ceylonensis* of Zar. & Härms is a pure synonym. *T. p. turkestanica* is only a winter visitor to the plains.

***Hypothymis azurea styani* (Hartl.).**

The Black-naped Blue Flycatcher has not been recorded in Sind before. On 18 February, 1919, I saw under some thick shady *Pithecolobium* trees at the Karachi Sewage Farm a Flycatcher which was unknown to me and on securing it, it proved to be this bird. To meet with this species in the south-west corner of Sind and in the last piece of cultivation before one reaches the Beluchi frontier, was most unexpected ; its nearest habitat seems to be the Poona district, some 400 miles south-east, where it is said to be quite resident, nor do I know of any record which indicates local migration. It must be the merest vagrant to Sind and is unrecorded in the Punjab, Mt. Aboo, Deesa, and Cutch. My bird agrees well with the northern Indian race.

***Rhipidura aureola aureola* Less.**

The White-browed Fantailed Flycatcher is common and resident in the better cultivated and afforested areas ; in the

more desert parts, including desert scrub jungle, it is almost wanting. It is a tame, familiar bird wherever found and is often seen in the bungalow compounds of even large towns. It is an early nester, and I think more than one brood is reared; the male very easily betrays the locality of the nest by uttering its pretty little song in the vicinity or by pursuing any other species which approaches too near. Mr. Bell notes nests with fresh eggs on 27 March and 22 April; I have found eggs just hatching on 2 July and Doig recorded fresh eggs on 4 July.

I cannot separate Sind birds from those from Bengal, which fact however is not surprising as this species in Sind does not come under desert conditions. ♂: wing 80-81, tail 93-97; ♀: wing 73-78, tail 87-93 mm.

The juvenile moults in autumn the body feathers, all the wing-coverts except the primary series, some of the flight feathers but not the tail; birds in their first winter may be recognized by the brown primary coverts.

***Saxicola caprata rossorum* (Hart.). "Pidi."**

The Pied Bush-Chat is very common throughout Sind except in the hills, desert and desert scrub-jungle, where it is unknown. Thus in cultivation, open thickish jungle of tamarisk, acacia, etc., such as borders many jheels, and lines the Indus banks, it is one of the characteristic birds and is a constant resident. Round Karachi it is naturally rare, though even here a few pairs may be seen in suitable places. Doig gives the nesting season as from April to August: I found a nest at Karachi on 22 March containing three fresh eggs; the nest was composed entirely of grass and was situated on a bank concealed by a tuft, much the sort of position an English Robin would choose. Mr. Bell found two nests with four eggs each on 26 and 31 March, well concealed in the bottom of grass clumps in tamarisk jungle.

This bird has a very pleasing little song, and the love flight of the male during the pairing season is a very pretty sight as he flies up singing from the top spray of a bush with slowly beating wings, displaying his white patches to full advantage, to settle on the top of another bush.

Sind birds are typical *rossorum*, the type and topotypes of which I have examined, and are distinguished from *atrata* by their smaller size and more white on the belly in males. A series measure : male, wing 70-75, bill (base) 13-15 ; the third to sixth primary emarginate and the second is between the seventh and eighth in length. The juvenile is very like a young Whinchat ; brown above with white central spots, upper tail-coverts pale fulvous, underparts creamy-white with faint brown edges to the feathers of the throat and breast. The post-juvenile moult involves the body feathers, all coverts except the primary, and the three inner secondaries ; the male is then distinguished from the adult by the brownish tips to the black upper parts, the fulvous tips to the breast feathers, and the browner wings, tail, and primary coverts. It breeds in its first year and there is no spring moult.

It is difficult to see why Dr. Hartert refers to this race as probably a winter visitor to the plains of north-west India ; it is quite resident and seems peculiarly sedentary.

***Saxicola torquata indica* (Blyth).**

The Indian Stonechat being a bird of cultivation or bushes in its vicinity or of open well-grown tamarisk jungle, is consequently commoner in Upper Sind and the Indus valley than elsewhere. It is a winter visitor and the earliest I have seen it was on 1 October, and I have no record of it after 16 February ; I met with it comparatively seldom in Lower Sind, and it eschews desert scrub-jungle. Blanford found it in Thar and Parkar, however, occasionally even among the sand-hills.

Eleven males. Sind and Punjab. Wing 68·5-71, occas. 73 ; bill (base) 13-15 mm.

Nine females. Sind and Punjab. Wing 65·5-70 ; bill (base) 13-14 mm.

The amount of white in the base of the tail varies individually ; often there is none at all, often only on the "fluffy" base of the feathers, hardly ever on the outer feathers ; sometimes it extends well on to the webs of the other feathers almost as much as in some examples of *S. maura*. The bill is very variable in size.

Saxicola torquata leucura (Blyth).

Hume found the White-tailed Stonechat abundant, but local, in the jheels of Upper Sind ; he writes : " Where the water, as it were, was paved with the leaves of the lotus and 'singhara' (*Trapa bispinosa*) and dotted over with tiny clumps or single stems of reeds and flowering grasses, the White-tailed Chat might be seen perched sideways on one of these wind-swayed reeds, every now and then darting down on to one of the lotus leaves, seizing some insect there and returning to its previous perch, instantly recognizable when on the wing by the great amount of white in the tail. Outside high-water mark I never saw a single specimen." Brooks came across this bird near Sukkur near a backwater of the Indus, where blue vetches and small tamarisks were growing.

In my experience too, this Chat is not found in Lower Sind nor did I, nor Doig, nor Butler find it in the eastern Narra district, though the locality seemed suitable. I only came across it once and that on the Manchar Lake on 9 March, where I obtained a male, with organs enlarged to breeding size, in the drying reeds and sedges on the lake-side ; the female was probably sitting. To Mr. Bell, however, belongs the honour of first describing the breeding of this bird in India, and I must here acknowledge once more the debt of gratitude I owe him for so kindly handing over to me his nesting notes to incorporate in this paper. Mr. Bell says that at the end of April 1904 he had seen several pairs in the Keti Shah Forest near Sukkur (almost where Brooks found it), and on revisiting the place at the end of March 1906 he again found many pairs. They affect the inundated land only, that is to say, open ground in the immediate vicinity of backwaters of the Indus on which later vetches are grown and on which tussocks of grass and low tamarisks flourish. In such a place on 28 March he saw a pair and marked the female to the nest, which was situated under a little heap of dead tamarisk twigs left after clearing the field for sowing. The nest was placed in a depression, well hidden and made of dead tamarisk leaves lined with a few dead grasses and three or four Black Partridge feathers,

and measured $4\frac{1}{4}$ inches in external, $2\frac{1}{4}$ in internal diameter, and $1\frac{3}{4}$ inches deep. It contained three incubated eggs. Another nest with one young one was placed under a clod and made of dead grass and a few Partridge feathers; another day he found two more nests with two eggs and three young respectively, and several other pairs were undoubtedly breeding; all of these were in an area of 200–300 acres. The song of the male, he says, is short and lark-like, not at all like that of *caprata*, and the alarm-note of both sexes is a “peep-chaaa.” After the young are flown the birds take to the edge of the jungle. In a precisely similar locality at Kairo Dero ii on 14 March, 1905, Mr. Bell found a nest in a depression of the ground quite covered in by the leaves and stems of the vetches; it held three fresh eggs of the same type as those of *indica*. Mr. Bell has seen this bird early in March at Dalipota in the north Hyderabad district in dry cultivation surrounded by dry canals with high grass along them, and he thought the birds were building. He has also met with it in Larkhana and Jacobabad districts, but not in Lower Sind.

In December 1918 I was very close to where Mr. Bell and Brooks both found this Chat (at Sukkur), and hunted places which exactly fitted their descriptions, but in vain; the whole place was very parched and there were no crops anywhere owing to the low level of the Indus; I mention this to show how a locally distributed bird may, owing to local conditions, alter its habitat. It is also worth remarking for how long a time the status of a bird, even in India, may be unknown if it is local, though it is rather surprising to see it referred to (Ibis, 1922, p. 20) as a straggler to Sind with the above information of Hume and Brooks available. I have no doubt that wherever it occurs it is resident, *e.g.* Lower Punjab, Ferozepore, etc.

Sind birds are topotypes; I cannot separate from them birds from Bhutan. The white in the tail-feathers of the male varies in extent and differentiation according to age, it being less in birds of the year, while the lower parts are suffused with the chestnut colour of the breast in winter,

this largely being worn off in summer. The female with its almost uniform grey-brown upper parts cannot be confused with female *indica*, moreover the upper tail-coverts are not rufescent but grey-brown; there is no white in the tail, which is a uniform "bleached" brown, paler than in *indica*. The bills in both sexes are usually longer and wider at the base than in *indica* (*cf.* also Ibis, 1922, p. 20).

Sind and Punjab, 6 ♂: wing 67-71: tail 49-52: bill (from base) 14.5-15.5 mm..

Sind and Punjab, 3 ♀: wing 65-67: tail 48-52: bill (from base) 15 mm.

***Saxicola macrorhyncha* (Stol.).**

Hume included this species in the additions to the Sind list which from time to time were published in 'Stray Feathers,' and in a review of this species (*t. c.* vii. p. 55) he gives its distribution as "Sind, Thar and Parkar districts and probably elsewhere." I have been unable to find any original record of this bird in Sind nor are there any specimens thence in the British Museum. However, I think it may be safely included as inhabiting the eastern desert of the Province, as Hume probably had definite evidence, and moreover it is very likely to occur as it is known from the Jaisalmer desert, Jodhpur, Deesa, Cutch, north Beluchistan, and south Punjab. Where it occurs it is, I believe, absolutely resident and very local. Mr. Whistler found it in the Punjab in bare open plain with a few scattered bushes.

Brehm's *Saxicola macrorhynchos* being a *nomen nudum*, the above name can stand for this bird.

***Oenanthe monacha* (Temm.).**

Hume found the Hooded Chat in the Khirthar in December, and in January near the Gaj and in the Nurree Nai as low down as 700 ft., both these places being gorges which come out from the Khirthar to the plains. It probably occurs in small numbers throughout the range, as it does along the Mekran coast, and it must have been mere chance that I did not see it in the Laki Hills near where Murray also

met with it in November. I failed to find it in the lesser hills, such as the Soorjana, though like *alboniger* it may occur quite low down in the higher hills. It is presumably resident.

***Ænanthe alboniger* (Hume).**

Hume's Chat is confined to the higher hills of the Khirthar: the most easily accessible place is in the limestone hills at Laki (2000 ft.), which here abut on the Indus and N.W. Railway. I visited these hills on 9 February and 2 March. The nullahs here have a dried-up water-course and scattered bushes and trees manage to exist; the sides are steep, boulder-strewn slopes, the tops of which meet the sheer cliff-faces, and here, where the largest rocks broken off from the cliff have come to rest at the top of the slopes, is the home of this bird. It is not common, a pair being met with about every mile; sometimes one may see them lower down the slopes, but always on the largest rocks, and I have seen them nearly as low down as the water-course and only a few hundred feet above the level of the plains. No abundance of bird-life is found in these rugged hills—a few Crag-Martins, small flocks of Striated Buntings, a few See See, and odd Redstarts and Red-tailed Chats make up about the total, and odd pairs of Hume's Chat seem to enhance the desolation.

From the state of the organs of those obtained in March I should say they would breed early in April. Close to where I found two pairs I found apparently two old nests, identical in construction and situation. They were placed in weather-worn cups in the face of huge limestone rocks lying on the slopes and some 20 feet up from the boulder's base. They were composed of a twig foundation, the outside of which was well plastered with mud into which chips of limestone were incorporated; the lining was soft grass. The nests had been used for roosts.

This Chat is I believe strictly resident, probably never leaving the gorge it breeds in; its habits resemble those of *picata*. In the lower hills such as the Soorjana and lower hills round Karachi it does not occur.

Four males : wing 104–108, tail 72–76·5, bill (base) 20–21 mm.

Two females : wing 100–101, tail 67·5–69, bill (base) 17·5–20 mm.

The females are very slightly duller black on the throat. Primaries 3 to 6 emarginate; 2=6/7 or 6 or 5/6.

***Cenanthe picata* (Blyth).**

The Indian Pied Chat is, I think, the most generally distributed member of the genus, though perhaps numerically it may be outnumbered by the Desert Wheatear; it is, however, found in places where the latter is not, and besides being found in open desert and thin scrub-jungle it also inhabits the lower hills and cultivation, but in Sind, as elsewhere, it especially delights in the neighbourhood of native huts, cattle compounds, low walls, etc., whither it is doubtless attracted by abundant insect-life, and this familiar little bird may even be seen in the compounds of cantonments as at Karachi. One of the earliest winter visitors to arrive, it is preceded by only the Pastor and Hoopoe among the land birds; the males arrive first, about the end of the second week of August or even earlier, but it does not become common until the first week of October in Lower Sind. Many, I think, have left us again by the end of February and the rest go early in March, a female on the 28th was the latest seen, an exceptionally late bird. The arrival and departure of this bird in Sind corresponds well with the departure and arrival of it in north Beluchistan, whence it seems probable the winter visitors come.

The males of this species in Lower Sind vastly predominate, the females always being rather rare, a curious and undeniable fact which I do not attempt to explain. This sprightly bird may be commonly met with perched upon some prominent position such as the corner of a roof, wall, or top branch of a euphorbia, whence it darts down to the ground to seize some insect or beetle, and then moves off to another point of vantage; each seems to keep to its own territory, and may be seen within it the whole winter doing its rounds from one "look-out post" to another and greatly

resenting the trespass of any other Chat. In the heat of the day it sits quietly in some shady spot. Each winter a bird, probably the same one, frequented my compound and roosted each night in a hole under the roof of my bungalow.

Barnes, remarking on the commonness of this species in Sind, says he has reason to believe that it breeds in the Bolan Pass (higher up it is of course a common breeding species) and may do so in north Sind: this, I think, is not improbable, it breeds in the high lands of Kelat, and the highest ranges of the Khirthar in Sind are really but the last range of these mountains before one comes down to the plains.

I have (Ibis, 1922, pp. 151-5) gone into the question of supposed dimorphism of this bird, and dealt at some length with its plumages and measurements, so that I need not recapitulate here.

Enanthe capistrata (Gould).

I have already gone very fully into the question of this bird and stated my reasons for considering it a distinct species and not a dimorphic form of *picata* (see Ibis, 1922, pp. 151-155). It only remains to reiterate that it is very uncommon in Sind, whereas *picata* swarms. Doig obtained one on the E. Narra on 18 February, 1879, and Blanford shot two near Cape Monze on 18 February, 1877, recorded (S. F. v. p. 246) as *morio*, where he comments on its rarity in Sind. All these are in the British Museum, and are undoubtedly *capistrata*. I obtained a female which I assign to this species at Karachi on 29 January, 1919, and I thought I once saw a male from the railway. Beyond these there are no records save that it seems, curiously enough, that Gould's figure was taken from a bird probably obtained near Sukkur (S. F. vii. p. 119).

Enanthe opistholeuca (Strick.).

Strickland's Chat, too, is evidently quite a rare bird; Hume remarked on its entire absence; Blanford's collector got one either at Kotri or Karachi, though he himself only saw it outside Sind—in the Jaisalmer desert. There is one

from near Jacobabad, obtained by Doig on 22 November, 1878, in the British Museum, and one in the Karachi Museum labelled "Karachi." Butler says he has seen a few from Upper Sind. I never met with it at all, though I found it not so very rare in the Lower Punjab.

[*Enanthe leucomela* (Pall.).

Though this Chat might easily occur in Sind on passage (it has been obtained in the southern Punjab by Mr. Whistler), I only refer to it here to clear up once and for all various records which have appeared under the name of *morio* or *leucomela*. Blanford (S. F. v. p. 246) recorded two specimens of "*S. morio* (= *capistrata* Hume *nec* Gould)" as obtained near Cape Monze in February 1877. These are in the British Museum and both are true *capistrata*, as were also all his *morio* from the Jaisalmer desert. Murray (S. F. vii. p. 113) states that a specimen of *Saricola leucomela* was obtained by his collector at Daulatpur together with four other "new" Indian birds in November 1877. Blanford (*t. c.* p. 527) rightly threw doubt on these records. The bird was referred to as *lugens* (Fauna B. I. ii. p. 69), and I have since ascertained from Mr. W. D. Cumming that all five birds were sent by him to Murray from Bushire !]

Enanthe isabellina (Cretzsch.).

I found this species occurring everywhere in suitable places, but not so numerously as *deserti* or *picata*. It arrives in Sind later than the last named but before *deserti*; the first ones may be looked for in the second week of September, but it is not till well on in October that it becomes plentiful. It inhabits much the same sort of ground as *deserti*, but if anything prefers more sandy plains and not so much rocky or stony desert; jungle or damp places it avoids, though it is very partial to old plough-land; I have seldom noticed it settle on bushes as *deserti* frequently does. Blanford records it in the Thar and Parkar district as keeping more to the fertile tracts. Though this species nests at Quetta, I have no evidence that it breeds anywhere in Sind. Like most

Chats, it is found solitary and resents the intrusion of any other bird in its area. It leaves Lower Sind by about mid-March. Its food I have found to consist of small seeds and beetles.

***Ænanthe deserti atrogularis* (Blyth).**

This Chat at all events is well named, being a true denizen of the desert; generally distributed in the vast arid tracts or where a little scrub jungle occurs, in cultivation proper it is not seen, nor have I met with it in the hills. It is a winter visitor, the first males arriving in Lower Sind about 6 October, it becomes common by the middle of the month; the females, as with other Chats arrive later, and I have not noticed any before 24 October. Most leave again by the end of February, and the latest date I have met with this species is 10 March; like other migratory species it becomes exceedingly fat before departure.

Out in the desert this Chat may be met with almost anywhere, but it is particularly fond of broken ground, either sandy or rocky, and also of old cultivation which has reverted to desert. Here it takes up its position on any raised lump or stone, and also on low bushes, whence it darts down to take its prey or fly up Flycatcher style to take an insect on the wing. Its chief food appeared to be beetles. Mr. Bell records it feeding on *Hodotermes macrocephalus*. Males very greatly predominate.

My series measure:—♂, wing 92–97; ♀, 89–92, once 97. February and March specimens show no sign of any moult anywhere. So far as I am aware, the race *oreophila* does not occur in Sind or in the plains of India (*cf.* Ibis, 1922, p. 155).

***Ænanthe xanthoprymna chrysopygia* (De Fil.).**

Hume noted the Red-tailed Wheatear everywhere where he touched on the foot-hills of the Kirthar Range in winter, and my experience is similar. Anywhere in the lowest foot-hills in precisely the same places as is found the *Ammomanes*, this Wheatear may be confidently looked for in small numbers, and in places such as the gorges in the Laki Hills

it is comparatively abundant; I have met with it up to about 2000 feet and at Cape Monze on the rocks just above high-water mark. Outside the hill area it is a scarce bird; Butler records it from Hyderabad, but there are small rocky hills even there: Mr. Kinnear obtained it at Pithoro, and Blanford met with it in Thar and Parkar (where there are also low rocky hills), though it was commoner there on passage. I only met with it once outside the hill district, and that a single bird at Rohri on rocky ground, a terrain it seems constantly associated with.

Of its arrival I have no accurate note, it is common by the first week in November, and I have seen it as late as 2 March, about which time it probably leaves. Its food consists largely of black ants. Hume says he never saw this bird perch on bushes as other Wheatears do; in many places where it is found there are no bushes, but I have occasionally seen it perch on the top of euphorbias and other low bushes.

There is not much variation in the plumage of this bird. Measurements of my series are:—

Nine males: wing 93–97, tail 62–65, bill from base 18·5–19·5 mm.

Six females: wing 90–92, tail 60–64, bill from base 18–19 mm.

A bird obtained on 23 February shows slight moult on chin and back, but I am uncertain how far the spring moult extends. The second primary is between the fifth and sixth, occasionally between the sixth and seventh.

The *Cercomela melanura* Rüpp. *apud* Blyth, *ex* Burnes' drawings from Sind, was probably this species.

***Phœnicurus ochruros phœnicuroides* (Moore).**

The Indian Redstart is a common winter visitor wherever cultivation, gardens, and thicker jungle exist. It is a bird of the shade, and each one keeps pretty well to its own beat where it has its favourite perches, usually the lower bough of some tree, which it visits in turn to await the appearance of its insect prey on the ground beneath. Apart from the

bare desert there are few places where this cheerful little bird may not be met with—a small clump of acacia trees out on the desert is sufficient cover to harbour one or two, while the rocky gorges of the lower hills of the Khirthar range as at Soorjana, Laki, or the Gaj, scanty as the trees and bushes there are, seem always to hold odd birds.

The Indian Redstart is a late migrant in Sind; the earliest I have seen in Lower Sind was on 29 September, and it is not at all common till mid-October. It leaves again in the last week of March; the last to go are the females, and I have notes of odd ones as late as 16 April.

The adult male has the mantle and scapulars black with grey edges, the median and lesser wing-coverts black; the first winter male has no black on the upper parts, these being grey with brown edges and the lesser and median wing-coverts dark slate edged with grey, and furthermore it retains the browner juvenile flight-feathers and greater coverts. Wings, ♂ 80–84 mm.; second primary between the seventh and eighth in length. At the end of February there is a partial moult in both sexes involving the feathers of the face (forehead, chin, ear-coverts).

The type was obtained at Shikarpur by Griffith; the fixing of the type-locality as Kashmir (J. Bombay N. H. S. xxvii. p. 712) was unnecessarily wrong.

Ruticilla mesoleuca, recorded by Murray from Daulatpur, was really sent him from Bushire. *Phenicurus erythronotus*, which occurs in northern Beluchistan and Lower Punjab, has not been met with in Sind.

***Cyanosylvia suecica pallidogularis* (Zarud.).**

Wherever sufficiently thick cover on damp ground occurs the Bluethroat is fairly common; it particularly affects reed-beds round drying jheels, tamarisks, crops such as “jowari,” “triagal,” etc., and I once saw one in a mangrove forest in Karachi Harbour. It arrives about the end of the first week in October and the latest I have seen it is 11 April, though most have gone, I think, by the third week in March, by which time the spring moult is finished. It is a skulking little bird, and when flushed dives for the nearest little open

space, where it settles and runs with tail cocked-up into the nearest cover. I only very occasionally saw one perched up on a bush conspicuously, and that at about sunset when it was doubtless singing.

Seven males : wing 69·5–75, bill 15–16 mm.

Three females : wing 70·5–74, bill 15–16 mm.

The blue on the throat varies a little in paleness; all are too pale here and on the back for *S. suecica*, and correspond well with *pallidogularis*. Dr. Hartert (Vög. pal. Faun.) recognizes *dicessa* from Altai as the smallest, palest, and bluntest-winged Bluethroat. Two specimens from Sind match well in these respects two from Altai. The point of the wing in Sind birds varies from 12–15·5 mm. taken from tip of inner secondary next the tertials, and this in *dicessa* I make 12–14 mm.; the wing-measurements and colour differences between these two races are so very slight (and not very constant) that I am not satisfied that *dicessa* is a good race. Should it eventually turn out on examination of more breeding birds from Altai to be recognizable, then *dicessa* occurs in Sind.

Thamnobia fulicata cambaiensis (Lath.). “Kabari Pusri.”

In Sind the Indian Robin is very much a bird of the desert, where scattered euphorbias and a few camel-thorn bushes (“Kandero”) alone struggle for existence or in places which, where more frequent bushes occur, might be dignified by the name of open scrub-jungle. Here it is more noticeable as birds are very scarce, and I have been in forlorn and desolate-looking low hills where, in the hot weather, a pair or two of this bird were the only living things to be seen. It seemed, therefore, all the more remarkable to me to find it common in quite thick damp “kaku” grass and “kandi” jungle on the Narra Canal, where it appeared equally at home : to cultivation, however, and to the vicinity of habitations it seemed quite foreign, and I do not remember meeting with it in such situations.

The Indian Robin is resident; it breeds in April and probably has more than one brood, as I have found young just

hatched on 18 June. Mr. Ludlow has a clutch of seven eggs taken at Malir on 20 April, but four to six is the more usual number.

[*Copsychus saularis saularis* (L.).

Butler records that occasionally during the hot weather he noticed Magpie Robins in the Lyarree gardens at Karachi. There are three specimens in the Karachi Museum, labelled "Sind," perhaps obtained there. This bird certainly does not occur now at Karachi, and I conclude that in the absence of any other subsequent records in Sind that these birds were escapes. It is said to be a cold weather visitant to Mt. Aboo and north Gujerat, and does not occur in Cutch.]

Turdus ruficollis atrogularis Temm.

The Black-throated Thrush is a winter visitor in variable numbers. Hume says that in the better cultivated parts of Upper Sind he found it very common in January and December. Maybe it is always commoner in Upper Sind, where suitable terrain is more abundant, but I am certain that in Lower Sind it is a weather migrant to a large extent. In 1917-18 I saw none, in 1918-19 very few, but at the end of 1919 an extraordinary influx set in: I had seen odd ones up to 29 December, when I noted several, but on 4 January, 1920, they were swarming wherever a little cultivation afforded cover and food; a week later many had again passed on. This Thrush is a common winter visitor to Quetta in northern Beluchistan, and I ascertained that the weather there about Christmas-time was unusually severe, and it seems reasonable to suppose that these birds had migrated to the warmer plains of Sind in front of the cold snap.

According to my experience, and it agrees with that of Hume, this Thrush is a bird of damp groves and cultivation, and may be seen in almost any cover provided the ground is damp. It hops about when feeding in a Fieldfare-like manner, and when disturbed often flies to the topmost bough of a tree, reminding one much of a Fieldfare. They roost in company in any thick-foliaged tree. At this time of year they

are entirely insectivorous, feeding on larvæ, "white ants," etc. The note is not unlike the alarm chuckling of a Black-bird but much softer, and it has another alarm-note like the Redwing's call. Males far outnumber females, and even so some of the apparent females are males of the first year. The earliest I have seen it at Karachi is 25 November and the latest 23 March.

Capt. Malden informed Hume that he had obtained *Turdus unicolor* at Jacobabad; Hume apparently did not see the specimen, and Malden's identification cannot be relied on.

***Monticola solitarius longirostris* (Blyth).**

***Monticola solitarius pandoo* (Sykes).**

The Blue Rock-Thrush is not uncommon in the Khirthar Range and, at places where the few perennial streams such as the Gaj and Nurree Nai flow through them, it is abundant, even down as low as 600-700 feet. The only one I personally met with was at the bottom of a ravine on the Cape Monze range west of Karachi on 3 February; this range is about 800 feet high, but the bird was practically at sea-level. In Lower Sind it appears to be very local, and to the plains it is evidently quite a rare straggler; it is only a winter visitor to Sind.

As indicated above two races occur: from the Khirthar Hills, Sehwan, and Karachi are males in the British Museum obtained by Hume and Blanford, and these all belong to the paler and larger race *longirostris*. The female I obtained, however, certainly does not belong to this race but to *pandoo*; females of this Rock-Thrush are more easily differentiated than males, and this bird is far too dark for *longirostris* and matches well topotypes of *pandoo*. From a series of topotypes of each race:—

solitarius. ♂: wing 122-127 mm.

longirostris. ♂: „ 121-127 mm. Males paler; females greyish brown above, less dark and less rufescent below than in the other two races.

pandoo. ♂: „ 117-123 mm.

Blyth's name, with good description, founded on a specimen from between Sind and Ferozepore (J. A. S. B. xvi. 1847, p. 150) takes precedence by 52 years over Dr. Hartert's *transcaspicus*.

Monticola saxatilis (L.).

The Rock-Thrush has not been recorded from Sind before ; on 15 April, 1919, I met with two isolated birds in thin desert scrub-jungle near Karachi, and on the 17th I found two males frequenting the broad open paths in the Karachi Sewage Farm. On 20 November I secured an immature bird on the grassy banks of a tank also near Karachi ; though late this bird was probably on passage as it was exceedingly fat, and its migration was perhaps delayed by its having several parasitic cysts in the skin. I have invariably found that very little will hold up a bird's migration, such as a tail-feather or two missing, and birds will not set out on a long journey until an abundant supply of reserve material in the form of fat has been laid up and essential feathers are in good trim.

This species has only very rarely been recorded elsewhere in the plains of India, and is one of those which take the Arabian route. The spring birds are in beautiful fresh plumage, contrasting markedly with the very worn wings.

Monticola cinclorhyncha (Vig.).

Butler records that he saw one for some days from 9 March, 1877, at Karachi. It is not impossible that a few may pass through Sind on passage to the hills, but perhaps not regularly.

Ploceus philippinus philippinus (L.).

The Common Weaver is local in Sind, and so far as I could ascertain, not so numerous as the Streaked Weaver. Butler says it is not uncommon about Hyderabad and the country east, and I found several colonies at and near Karachi where cultivation exists. Hume did not meet with it in Upper Sind, but it is almost sure to occur there ; I have seen

Weavers' nests (from the train) nearly as far north as the frontier.

I had several colonies under observation at Karachi, and I always found that they were composed entirely of this species, the Streaked Weavers keeping strictly apart, though Butler has recorded on one occasion all three species nesting in one tree. From close and long observation I formed the opinion that males greatly predominate, as Hume found with the other two species in winter: thus at two isolated nests three males were present, at another colony of fifteen nests about fifteen males were seen and only two or three females; at another eight nests eight males and two females, and so on. Moreover, at every colony there were more nests built than ever had eggs in them, and nests are left in all stages of incompleteness, a circumstance I put down to the ceaseless energy of the surplus males. To the excellent account of the nesting of this bird given in Hume's 'Nests and Eggs' I can add but little. Round Karachi the nests were in "babool," "kandi," or other thorny trees in cultivation, and suspended by three or four twigs from the tips of the boughs well out of reach. The colonies varied from eight to about fifty nests, but I found one isolated colony of two nests; the material used was invariably, I think, leaves of the "jowari" (*Sorghum*). One colony seemed to me to be in rather a peculiar situation: consisting of fifteen nests it was situated in a "kandi" growing out of the inside of a well, and all the nests were quite below the level of the ground. The same trees are resorted to each year, and some of the old nests utilized again if sound, or patched up if not, while sometimes new nests are built on to and suspended from the funnel of old nests. At a colony on 24 June many nests were being built, but some at least had young in the nest: these were fed by both parents with entirely insectivorous food such as caterpillars and grasshoppers. The males at a colony are very quarrelsome and pugnacious, constant bickering with neighbouring males occupying most of the time in the intervals of nest-building (of which they do the greater share), especially on the arrival of a female. The males have a sort of display, in the

performance of which they hang head downward on the side of the nest with wings drooping and shivering. The pieces of mud in the fabric of the nest must be, I think, for steadying the nest; to serve the same purpose I have seen the funnel fixed to a twig.

Sind specimens do not appear to me to be separable from those from the rest of India.

***Ploceus manyar flaviceps* Less.**

Throughout the province, in the better cultivated parts of course, the Streaked Weaver is the commonest bird. Hume noted in Upper Sind in the cold weather, that wherever the "khan" grass abounded, this Weaver was very common, feeding in flocks on the seeds and insects harbouring in the grass. In Lower Sind it is perhaps not quite so abundant, yet it is by no means rare. Hume noted that males vastly predominated, a fact which I can corroborate both in this species and in the Baya.

The nesting season is from June to September, though I once found a male busily building on 30 April. The colonies, unlike those of the Baya, are always small, four or five up to ten in a group and usually placed over water. Thus I have found them in tamarisk, reeds, bulrushes, etc.; but at Karachi, where there is no water, I have found colonies in "babool," cocoanut palm, etc. in cultivation. On 14 June nests were being built and some were finished; on 26 June I examined a colony in a row of cocoanut palms, one or two nests in five consecutive trees; they contained fresh eggs, incubated eggs, a day's difference in incubation between each egg, and in one case feathered young. Two, but fairly often, three eggs are laid; these are laid as soon as the egg-chamber is complete and before the funnel is built. Butler records it breeding in great numbers along the bank of the E. Narra and found the colonies to be always pure ones, as were all I examined; he found two colonies in "jowari."

Hume noted that Sind birds were not typical *manyar*; the latter from Java has a deep gold head and dark brown edges to the upper parts and a brownish wash below. In

Sind birds the head is paler gold and the edges of the upper parts much paler, and there is hardly any rufous on the abdomen; this corresponds pretty well with birds from Madras. Stresemann (Novit. xix. 1912, p. 319), reviewing the group, gives the type-locality of *striatus* Blyth as Bengal; this is quite incorrect; Blyth (J. A. S. B. xi. 1842, p. 873) says "specimens . . . amongst those collected by the late Sir A. Burnes in the Western country," *i.e.* Sind or Punjab; *striatus* is a synonym of *flaviceps*.

This Weaver moults at the end of March, the head, ear-coverts, cheeks, and upper throat certainly, perhaps all the body plumage.

***Ploceus benghalensis* (L.).**

Hume met with the Black-throated Weaver commonly in the "khan" grass forests in parts of Upper Sind, as near Larkhana and at Mangrani near Shikarpur. Butler thought he found it nesting together with the other two species at Hyderabad, and Barnes, although he met with it at Hyderabad, thought Butler must have been mistaken in the identity of the nests, as all the Weavers' nests he found there were those of the Baya. I did not meet with *benghalensis*, which must be the rarest or the most local of the three Weavers in Sind, and I see no reason to doubt that it is resident. Hume noted that of the many specimens he examined all were males; I have already noted the great preponderance of males in the other species.

Specimens from Sind resemble in all respects those from Bengal.

***Uroloncha malabarica* (L.).**

The White-breasted Munia is very common throughout the length and breadth of the province, in desert, scrub-jungle, cultivation, and more open parts of forest alike. The breeding season is very prolonged, and it is probable that, as a species, it may be found nesting in every month of the year, though individuals do not breed at any rate whilst moulting; thus I have notes of nests in nearly every

month from February to September. It seems likely that birds hatched early in the year breed in the same autumn (as suggested under other species), as I have obtained birds of the year in moult in July in which the sexual organs were becoming enlarged; such a circumstance is not at all common amongst birds. Its food consists of seeds of grasses such as *Pennisetum typhoideum*, "khan grass," sedges, etc.

Sind birds are not separable from birds from Madras and Mysore. Male: wing 55·5–56·5, tail 53–56 mm. The juvenile undergoes a complete moult.

Amandava amandava amandava (L.). "Suruk" ♂,
"Chitli" ♀.

This species is a constant resident throughout Sind wherever the tall "giant grass" (khan) abounds, and locally it is very common, so that the distribution of this bird may be said to be, roughly speaking, the Indus valley and the canal areas. Outside this I have only met with it at Karachi, where in the cultivation it is not uncommon, but its occurrence there is not without suspicion of its originally having been introduced by the liberation of cage-birds. This, however, now cannot be proved either way, and as this little bird does undoubtedly rove about locally according to the plenteousness or otherwise of its food-supply, there is nothing very improbable in it having colonized Karachi naturally; the only other place I have seen it between Karachi and the Indus (105 miles east) is at Malir, 15 miles east of Karachi. The breeding season is after the monsoon rains; they were always in flocks during the hot weather, and adults which I shot were certainly not breeding. I first noticed them paired on 9 September, and the breeding season probably lasts from about then to the end of December, as on the 15th of that month I examined a female which had a soft egg in the oviduct. Probably some cease breeding before this, as a male on 2 December had just begun to moult. Contrary to what has been stated in the 'Fauna' and elsewhere on the plumage of this species, the male certainly does not hold its red plumage all the year, but after breeding moults its body-feathers and

acquires a yellow plumage resembling that of the adult female, but is distinguished by its greyer throat and upper breast. In May and June both sexes are undergoing a complete moult,—body, wings, and tail,—which will bring them into full breeding plumage again by July or August.

The juvenile, which has a reddish-yellow iris and a black bill, may also be distinguished by the fulvous tips to the tertials, coverts, and tail; the bill begins to turn red about February, and moult begins in April.

***Bucanetes githagineus crassirostris* (Blyth).**

I found this species to be a fairly common winter visitor to the low hills west of Karachi and the desert in their immediate vicinity; away from this I never met with it. Even here these birds appeared to have their favourite haunts, and one might walk all day and never see a bird unless one knows of some rocky hill, where they are always to be found feeding on the seeds of some desert plant or along the high-water mark left by the rain floods; moreover, they are exceedingly difficult to detect on the desert ground, so well do they match it in plumage. However, I found the best method for ascertaining their presence was to watch by some tiny perennial spring or "rains" pool; if in the vicinity, one would not wait very long before a small flock would appear from the neighbouring desert hills to settle on the rocks near by prior to drinking, for they appear to be very thirsty birds and come about every hour. Hume and others found them along the Khirthar foot-hills in winter.

There can be little doubt that this species is really resident, moving down altitudinally from the higher hills of the Khirthar to winter in the lower hills and foot-hills, from the north right down to the Habb River in the south. When they arrive I have no certain knowledge of: the earliest I have seen them is 11 November, and they leave again early in March, by which time hardly a trace of the brilliant summer dress is yet discernible.

Blyth's type of *B. g. crassirostris* came from Afghanistan (J. A. S. B. xvi. 1847, p. 476), and Sind birds agree well

with Afghan specimens, having a longer wing and on the whole a stouter bill than has *B. g. githagineus*. My specimens (12) give the following measurements:—♂: wing 88–93, bill 12·5–13, depth 9–10. ♀: wing 83·5–89, bill 12–13, depth 9–10 mm. The bill in the male is dull orange-yellow, dull yellow in the female. The males, besides having a brighter pink wash than the females, have the crown hoary grey tipped with brown instead of wholly brown as in the latter sex.

A Linnet was said to have been obtained at Daulatpur by Murray's collector: this really came from Bushire; Butler thought he saw one at Karachi, but no further confirmation of the species in Sind has come to hand.

***Carpodacus erythrinus roseatus* (Hodgs.).**

The Common Rose Finch would seem to be a rare bird; Murray obtained two at Sehwan in December 1877 and sent them to Hume for identification. Major Raymond Cooper tells me that he had one alive once which had been caught near Karachi a few years ago; it was an adult male, but in captivity it lost its red colour at the next moult. I saw a pair and obtained the adult male at the Karachi Sewage Farm on 6 January, 1919. There is one in the British Museum from Sehwan (Hume coll.), doubtless one of Murray's referred to above.

Serinus pectoralis Murray (Vert. Zool. Sind, 1884, p. 190—Karachi) appears to have been *Serinus icterus* of Africa, and doubtless an escape.

***Gymnoris xanthosterna transfuga* Hartert (= *flavicollis* auct.).**

The Yellow-throated Sparrow is a somewhat local bird, but in places quite common. To Upper and Central Sind it is perhaps a summer visitor arriving, as Sir Evan James noted, in March; neither I nor Hume met with it in winter in Upper Sind, and even to the Narra district it is probably also a migrant. Blanford records it in Thar and Parkar where trees exist. In Lower Sind however it is resident, in spite of Butler's assertion to the contrary, for I have found it

common round Hyderabad in winter as well as meeting with it at Karachi, though at this season it is rather a quiet secretive bird.

I found it common in "kandi" jungle near Jhimpir and in old tamarisk forest near Jerruck during the nesting season, and here holes in trees must be utilized. Round Karachi it is not at all a common bird owing to lack of trees; one pair bred in an isolated "babool" grove along the Sehwan road, and I could find no hole in these sound young trees wherein the birds could have nested, and I am inclined to think that an old House-Crow's nest was utilized. At Hyderabad the tops of lamp-posts were formerly used.

The food of this bird I have found to consist of the seeds of grasses etc., and it is very fond of the contents of the flower of the Leafless Caper or "Lirru" (*Capparis aphylla*), and its forehead is often stained with the pollen.

Sind birds are inseparable from those from Persian Beluchistan, and differ from the central Indian birds in the paler upper parts and lesser wing-coverts. The juvenile resembles the female, but is more ochraceous brown above and lacks the yellow throat-spot. It has a complete post-juvenile moult and so resembles *Passer* more than *Fringilla*, and the bill in the juvenile is also more Sparrow-like. In the breeding season the bill is black, flesh-coloured at the base of the lower mandible; legs and feet lead-grey: in winter the bill is brown or bluish black and the legs and feet brownish: the juvenile has the bill horny-flesh, legs and feet pale lead-grey.

Males measure: wing 81-85.5 mm.; bill from base 14-16.

***Passer domesticus indicus* Jard. & Selby. "Cheelee."**

The House-Sparrow is, of course, abundant throughout the length and breadth of Sind, wherever there are human habitations, far from which, however, it does not occur. In some places where only a few huts or an odd bungalow are the only signs of habitation, especially in thick jungle country, it is scarce, and also I have found it not very

common in remote villages such as at Jungree at the foot of the Soorjana Hills ; whether it occurs or not in the higher hills I do not know for certain, but it probably does so in the small settlements there.

Doig says the Sparrow nests in every month of the year, but this I could not confirm ; it may build nests, but does not I think lay before the end of March (earliest eggs 25th), and the earliest young on the wing were noted on 11 April ; nor do I think it breeds much after October, as I never saw newly flying young later than that. No remarkable nesting sites came under observation, but I do not recollect seeing open nests in trees in Sind, though I have in Beluchistan.

Nine males measure : wing 75·5–77·5, tail 55·5–57·5, bill (base) 13·5–14 mm.

Five females measure : wing 71–74·5, tail 54–57, bill (base) 13–14 mm.

***Passer domesticus parkini* Whistler.**

On 12 December, 1918, I met with a flock of House-Sparrows right out in the “khan” grass jungle on the Jamrao Canal, in the sort of place one expected to meet with *pyrrhonorotus* or *hispaniolensis*, as House-Sparrows do not frequent such places unless near habitations ; consequently I shot one to make sure of the identity, and was surprised to find that it was a regular giant of a House-Sparrow compared with our resident birds. On my return to Karachi Mr. Whistler curiously enough wrote to me about some similarly large House-Sparrows he had obtained at Jhang in the Lower Punjab “evidently migrating,” and we came to the conclusion that some large form, probably a hill-race, was a winter visitor to the north-western plains of India. Whence came these Sparrows ? St. John (Ibis, 1889) says House-Sparrows leave southern Afghanistan and Kelat in winter ; Marshall makes the same statement as regards Quetta (which I too can confirm) ; Whitehead recorded vast numbers on passage in spring at Kohat, and Fulton says it is a summer visitor to Chitral. Here, then, was a guide as to whence our Sparrow came. Mr. Whistler subsequently visited Kashmir and

found our Sparrow to be the breeding-bird there, and separated it as a new race *parkini* (Bull. B. O. C. xl, 1920, p. 13). As I have already pointed out (J. Bombay N. H. S. xxviii. p. 231), it is a bird of wide distribution. My Sind specimen is a male and measures: wing 83, tail 61, bill 14 mm. It has the white cheeks of *indicus* and is, on the whole, purer in coloration.

***Passer hispaniolensis transcaspicus* Tschusi.**

From the records of the occurrences of the Spanish Sparrow it appears to be a winter visitor in quite small numbers to Upper Sind. To Lower Sind it is only a straggler; I met with it there but once—a small flock in “kandi” jungle near Karachi on 22 November, 1919, though constantly on the look out for it. It is in my experience much more of a jungle Sparrow than *indicus*, and is very partial to the “khan” grass. Sind birds are typical *transcaspicus*.

***Passer pyrrhonotus* Blyth.**

How a very local bird may be lost sight of for years is well exemplified in the case of the Sind Jungle-Sparrow. It was sent to Blyth by Sir Alexander Burnes, and for nearly forty years no more specimens were forthcoming until Doig in 1880 (S. F. ix. p. 278) announced its re-discovery in the E. Narra, and he had been working in this district for years before he came across it. He found these birds nesting high up in acacias growing in water, and on 24 April they were just beginning to build; he subsequently found more nests on 25 August, all with young more or less fledged, the nests being in similar situations. As regards the habits he says he never found these birds any distance from water, and they were usually in flocks of five or six or up to twenty in number; their food consisted of small seeds and insects, and they were very fond of the seed of a creeper which grows on the tamarisk. The nests were like those of House-Sparrows but smaller, and the eggs showed three types. The note is like that of a House-Sparrow but fainter.

Mr. Bell writes that this Sparrow is fairly common in the jungles of the Indus from north of Sukkur down to the Sadnani forest in the Karachi collectorate, and occasionally as far as the jungles in the Hyderabad district. He found it frequenting fairly tall tamarisk-jungle round jheels and in mixed jungle of this and acacia. The nests are often great globular depressed masses of tamarisk-twigs, with a hole in the side or top leading to a central chamber which is lined thickly with feathers; the external diameter varies from 90–180 mm. Many nests in the Sadnani forest on 23 April mostly contained young, one clutch of four, the rest three; in one nest the young were about to fly.

I found this little Sparrow in winter at Jamrao Head on the Narra Canal not very uncommon, in little flocks of five or six individuals feeding with *Amadavats* on the seeds of the “khan” grass, in a forest of which, mixed with “babool” and “kandi,” it was exclusively met. This jungle had been flooded at one time, and was so still in parts. The birds seemed particularly fond of the tall grasses growing up through a “kandi” bush, into which they could retreat at the slightest alarm. Here I found two old nests, one at the top of a pollarded tamarisk supported by the sprouting branches, the other in a fork of tamarisk, and both about 15 feet from the ground in mixed “khan” grass and acacia jungle which had been inundated. The nests were rather like those of *P. domesticus*, but more depressed.

I again met with this bird in similar jungle at Sukkur, a flock of about fifteen, apparently all males. I also found a few pairs on a tamarisk-covered island in the Manchar Lake on 10 March, where they were, I think, about to breed, from which locality Beecher has also recorded them. They are rather noisy little birds, and the note reminded me rather of a Wagtail’s call-note.

Dr. Hartert (*Vög. pal. F.* p. 151) is undoubtedly in error in making this Sparrow a race of *domesticus* (and Mr. Stuart Baker (*J. Bombay N. H. S.* xxvii. p. 731) has recently followed him). From the writings of Doig forty years ago it was evident that this could not be so, as he then recorded both

species breeding in the Narra district. Nor are the habits at all like those of *domesticus*, it is essentially a jungle Sparrow; moreover, I have seen *domesticus* and its nest within 100 yards of *pyrrhonotus* and its nest, the former in an isolated bungalow, the latter in the jungle near by! As pointed out by Hume (S. F. ix. p. 444) it is in all respects more nearly allied to *Passer moabiticus*.

My series show little or no variation in plumage, they measure: ♂: wing 67-70, bill (base) 11-12·5. ♀: wing 64-65, bill (base) 11-12·5. Legs and feet brownish; bill in winter dark brown above, yellow-brown below; bill in summer black. There is a complete post-juvenile moult.

The name "Rufous-backed Sparrow" seems inappropriate for this bird, and has been used more applicably for another species (*P. rufodorsalis* auct.). I have therefore introduced the English name Sind Jungle-Sparrow as being more suitable.

Emberiza schœniclus pallidior Hart.

I saw a Reed-Bunting close to Karachi in a temporary rush-covered jheel on 3 November, 1917. I did not meet with it again till 3 December, 1918, when I secured one in a "khan" grass and "kandi" forest at Jamrao Head, where this Canal takes off from the E. Narra Canal. It was the only one I saw. I saw another in a reed-bed on the Manchar Lake at Christmas 1919. Common enough in parts of the Lower Punjab wherever the "khan" grows, I cannot think that it can be as rare in Sind as the above records indicate, and probably in Upper Sind it will be found to be not uncommon. This species has hitherto not been recorded from Sind.

My Sind and Punjab birds are typical *pallidior*; I have no knowledge of the typical race occurring in the Punjab (cf. Pract. Hdbk. p. 151; Vög. pal. F. p. 196, etc.).

Emberiza stewarti Blyth.

Murray says he obtained this species near Sehwan in November, probably in the hills, as Blanford got one in the Khirthar Range west of Larkhana on 5 December, 1876.

Surgeon-General Stewart has stated that he thinks he has seen it in Sind in the cold weather. This bird, which is so common in the juniper-forest area of northern Beluchistan, may well move down into northern Sind in the winter, and possibly is not very uncommon in the Khirthar, but I doubt it being met with in the plains.

The type-locality of this species is Koteghur, near Simla, in the Himalaya (*vide* Zool. 1886, p. 435).

***Emberiza luteola* Sparrm.**

Blanford records one obtained at Rohri on 3 April, 1875, and Butler saw a few pairs on spring passage on 4 April, 1877, on the "maidan" on the Clifton side of Karachi. Possibly this species does not normally touch Karachi on its migrations as I never came across it, and it may be commoner in Upper Sind on passage than these records indicate, as it is a summer visitor to the highlands of Kelat and northern Beluchistan.

***Emberiza buchanani* Blyth.**

The Grey-necked Bunting is chiefly a passage migrant, which fact Butler also noted. In spring the earliest arrivals were noted on 3 March, but the bulk come during the latter half of the month, and in some years, as in 1919, they were very numerous and the passage lasted until 17 April. In autumn the last half of September sees them passing through again; in 1918 there were very few, but in 1919 a good many came under notice, one piece of desert jungle at Jhimpir being full of them on 21 September. A certain number apparently spend the cold weather in Sind, probably only in those years when the monsoon rain has been good and desert-plants have therefore seeded; thus Murray records it in November at Sehwan, Blanford too met with it in Thar and Parkar in the cold weather, and I saw a few in desert jungle near Karachi on 22 November. During their passage they are to be found in scrub-jungle, cultivation such as "jowari" crops, cut lucerne fields, and especially on the edges of fields where weeds abound and on whose seeds they largely feed.

As with *E. melanocephala*, males vastly predominate : the reason for this I thought was that the sexes migrated separately and the females came through later and perhaps halted a shorter time. Its migrations too, I think, closely resemble those of its congener as it passes through Lower Sind and Beluchistan and Persia, and is found in summer as far west at all events as Lake Van in N.W. Persia (Ibis, 1907). As this bird is not found south of the line Mesopotamian plain—Persian Gulf, its migrations must largely partake of an east-west character.

There is not much variation in the plumage of this bird, the adult autumn plumage is much the same as the spring ; the males of the year have the head browner than the adults, and the females have less chestnut above and below than the males ; there is no spring moult.

Nine males measure : wing 85–91 ; tail 75–79 ; bill from base 13·8–14·5 mm.

***Emberiza melanocephala* Scop. “Booree.”**

The Black-headed Bunting is very common throughout the cultivated parts on spring and autumn passage, and its times of coming and going are most regular. It arrives in Lower Sind in the last days of March, and the passage continues till mid-April, while, in the autumn, the first arrivals may be seen in the last days of August, and all have moved on again by the third week in September. They keep to themselves, not associating much with *E. buchanani*, whose times of passage are coincident, and on spring passage particularly affect cereal crops, which are then in ear, doing great damage. In 1869, according to Sir Evan James, so much damage was done by these birds in the wheat-fields round the Manchar Lake that the crops were not worth cutting. The Sindhi name, which means “deaf,” is given to this bird as no amount of shouting will scare it from the crops. Wintering farther to the south and east in India, the migrations of this bird can be traced through Sind apparently crossing the Khirthar Range, as it is not common in the Quetta Valley, on through Beluchistan into Persia.

where many breed; one branch route at all events passes along the Jebel Hamrin Range and leads to the summer quarters in upper Mesopotamia, Syria, and south-east Europe. As it is unknown in Egypt and the Sudan the migration is much more E.-W. than S.-N., as also in the case of the Pastor, and like the latter, too, it returns to its winter quarters in worn breeding-dress and then moults, contrary to the rule in most Passeres.

On spring passage vast clouds of these birds may be seen in the ripening crops; on being flushed they fly to the nearest acacia, making the whole tree a yellow mass. Out of hundreds seen in such flocks 98 per cent. are males; maybe the females pass through later and quicker and so tend to escape notice, but it is quite certain that the males pass through first and in almost pure flocks. In the autumn I did not find them so common as in spring: this is probably due to lack of corn crops; they frequent scrub-jungle and cultivation alike, and are mostly young birds in juvenile dress.

Gengler (Orn. Monatsb. xxii. 1914, p. 159) has described a race *orientalis* from E. Sarpa steppes, Astrakhan. While I think it extremely unlikely that a recognizable race inhabits that region, I may remark that all the characters he relies on are utterly variable, and I consider *orientalis* to be a synonym; birds from the Volga, Greece, Palestine, Cyprus, Turkey, Persia, and India are all precisely the same: some are paler, some richer in the yellow parts; some show a yellow neck-collar, others do not.

My Sind specimens measure: ♂: wing 92·5-100, tail 72-78, bill (base) 16-18 mm. ♀: wing 85-92, tail 65-71, bill (base) 16-17 mm.

Hardly any two spring males are precisely alike; some males have no chestnut-red on the rump, others have it entirely of this colour, while in the female this part may be yellowish, reddish, or grey! and there is much other variation. The juvenile plumage is much more compact (less "fluffy") than in most juvenile Passeres.

Emberiza calandra, recorded by Murray from Daulatpur, in reality was sent to him by Mr. Cumming from Bushire.

It might however occur, as both Mr. Whistler and myself obtained it in the Lower Punjab.

***Emberiza striolata striolata* (Licht.).**

The Striated Bunting is not uncommon in Lower Sind in winter wherever rocky desert or low hills occur from the Beluchi boundary to Hyderabad, and also in Thar and Parkar. It is commoner perhaps in the foot-hills of the Khirthar Range, and it is surprising that Hume never met with it there. In the Laki Hills in the Sehwan district I found it to be the commonest bird, and here fair-sized flocks were to be met with; at other places I generally found it in little lots of two to five individuals. Apart from rocky desert I only met with it once, and that in some sandy cotton-fields near the Jamrao Canal. Unlike its Saharan representative, this bird is by no means "eminently a House-Bunting"; I never saw it anywhere near habitations.

Whether this bird breeds in Sind is not known for certain, but I think it probably does so in the higher hills of the Khirthar; it certainly breeds in Kelat, which is really part of the same hills.

It arrives in Lower Sind in the third week of September, and the latest I have seen it is 11 April. A few, I think, are also passage migrants, as I have seen some in places where they do not occur in winter, during the passage of other Buntings, and it was interesting to note that these birds kept to an artificial stone embankment during their visit, in lieu of a rocky hill-side—so strong is the instinct of a particular habitat. Like the Desert-Bullfinch this species is always flying to water, and the surest method of ascertaining its presence in the vicinity is to sit by a water-hole. Its food consists of the seeds of desert grasses and of one of the *Compositæ* common in the hills.

The males differ from the females in having the chin, throat, and crown more streaked black and white; the juvenile is much like the female and its moult includes the body-feathers, minor wing-coverts, tertials, and central tail-feathers. My series measure: ♂ : wing 73·5-81, tail

59·5–65, bill (base) 11–11·5 mm. ♀ : wing 72–75·5, tail 57–61, bill (base) 11–11·5 mm. I have seen no Nubian specimens whence came the type, but Sind birds are not separable from birds from the Sudan littoral.

Melophus melanicterus (Gm.).

Murray states (S. F. vii. p. 112) that he obtained a specimen of this Bunting in the hills on the far side of the Manchar Lake. Hume identified the skin, but he also remarked that none of the specimens obtained on this trip bore labels, and we know Murray mixed up some Bushire birds among the Sind ones, so that one cannot say the evidence is quite satisfactory. However, I suppose it is conceivable odd birds may wander into Sind; it is common at Mt. Aboo, and occurs on the Koochawan hills of Jodhpur.

Riparia riparia diluta (Sharpe & Wyatt).

This race is a winter visitor to Sind and is fairly common, though in better watered parts its numbers are swamped by the resident form; a careful scrutiny will often reveal that there are two sizes of Sand-Martin in the air, the larger being this race. In the south-western corner, however, Sand-Martins are not very common, and it is only this race which occurs. The earliest I have seen it is 3 October, and in the few places where a little fresh-water or swamps exist, and not very uncommonly even over Karachi Harbour itself, a few may be met with. Most leave early in March, last seen 29 March in Upper Sind.

Eight specimens (and six in Brit. Mus.). These are all larger, greyer, "colder" in colour than *chinensis*, and have the tarsal tuft present, and correspond well with typical *diluta*; they are paler than winter *R. r. riparia* and the collar is less defined. They are also larger than *indica*. ♂ ♀. Wing 97–106·5 mm. A complete moult takes place in January.

I recognize the following races of *R. riparia* in north-west India:—

1. *Riparia r. chinensis*.—Browner and "warmer" above; collar absent. No tarsal tuft. Wing 90–99 mm.

Resident in N.W. India, except N.W. Frontier Prov. and extreme N. Punjab.

2. *Riparia r. diluta*.—Greyer and “colder” above; collar indistinct. Tarsal tuft present. Wing 97–106·5 mm. Winter visitor.

3. *Riparia r. indica*.—Colour as *diluta*. Tarsal tuft present. Wing 88–98 mm. Specimens from Pushut, Kohat (breed), Campbellpore (breed), Thall (breed), Jhelum (breed).

Cotile riparia recorded by Blanford from Rohri and Manchar Lake are undoubtedly *diluta* (examined in B.M.).

***Riparia riparia chinensis* (Gray). “Abābil Paki.”**

The small Indian Sand-Martin is resident and extremely common in the Indus valley and canal areas, west of these areas I never saw it however; no Sand-Martin breeds in the south-west corner of Sind, this part being extremely arid with little or no fresh-water, and so is unsuited to its requirements in the breeding season. A Sind jheel at daybreak presents an animated scene; the sun is not yet up and the mist hangs heavy over the water; little is yet astir save a prowling Marsh-Harrier or two and other kindred spirits. As soon as the sun begins to peep above the horizon the air is filled with crowds of these little Martins, which with a good many Swallows have been roosting in the reed-beds and are now like large phantom moths in the rising mist, flitting about on all sides, welcoming the warmer air with their shrill squeaks.

This Martin breeds early; already in the beginning of December I saw them excavating holes in the E. Narra; Doig gives February as the nesting month, and on 2 March I examined one of the many colonies in the banks of the Indus and found a good many nestlings just hatched; eggs may however be met with much later, and probably more than one brood is reared.

I consider that the illustration of this bird in Hardwicke's Ill. Ind. Orn. is perfectly recognizable and that Gray's name must stand (*cf.* J. Bombay N. H. S. xxvii. p. 735).

***Ptyonoprogne obsoleta obsoleta* (Cab.).**

The Pallid Crag-Martin is found in winter in all the foot-hills and in the hills themselves of the Khirthar from the north to Cape Monze. Into the plains near the foot-hills it straggles in small numbers in some years, frequenting well-sheltered spots. It is quite likely that this species moves but altitudinally in Sind and breeds in the Khirthar; the lower hills I have searched during the summer in vain. In the Soorjana pass I have seen them going to roost in winter in holes and crevices in the cliff often quite low down near the water's edge.

Eight males : wing 116-125; twelve females : wing 116-123 mm. These do not differ in size from Egyptian birds. Some Egyptian birds are paler than those I have seen from Sind, but are however more worn in plumage; by far the palest bird of a series comes from Fao; wear makes a considerable difference in paleness, and as some Egyptian birds do not differ at all from Sind ones, I consider that both belong to the same race.

***Hirundo rustica rustica* L.**

The Common Swallow is abundant as a winter visitor and its distribution is entirely dependent on water, away from which only odd birds are met with. It arrives in Upper Sind early in August in numbers and lingers some time in that comparatively well watered part as only stragglers have reached Lower Sind by then, and it is not till September, and in very dry years the end of October, that they become numerous in the latter district. Most disappear again in March and few may be seen throughout April, possibly passage migrants from elsewhere; I have seen single birds on 2 and 26 May and 6 June. I have no evidence that it breeds in Sind; it breeds on the Mekran coast and of course in Quetta. In January both young of previous year and adults start a complete moult which is finished ere they depart.

Hirundo smithi filifera Steph.

The Wire-tailed Swallow is in the better watered parts a common though rather local bird; to Upper and Central Sind it is a summer visitor and is there much commoner than perhaps elsewhere; both Hume and myself failed to see it in these parts in the cold weather and Butler says it arrives on the E. Narra Canal in May. In the Karachi district however, which is the warmest part of Sind in winter, it is a constant resident though not present in great numbers, so that the birds from farther north must winter outside the province.

Mr. Ommaney tells me he knew of one which nested in a verandah of a bungalow in the canal area, and I suspect that those seen at Malir near Karachi were nesting under verandahs on house-tops, round which they were constantly flying, as there are no canal bridges there and none so far as I could ascertain were nesting in wells. At the Habb River several pairs nest annually in a small rocky cliff overhanging the river whence Mr. Ludlow has eggs, and probably odd birds seen occasionally in the hot weather at Karachi have come from that colony.

It is surprising to find that this bird is frequently referred to as *smithi*, described from the Congo, from which it differs markedly in the much longer "wires" in the tail and rather longer wings, though Reichenow (Vög. Afr. ii. p. 411) recognized the differences.

I have examined 14 males of each race with the following results:—

smithi: wing 109–114 (117) mm.

filifera: „ 113–122, mostly about 119, mm.

smithi: "wire" exceeds tip of next feather by 25–62, once 72 mm. (mostly 40–55).

filifera: "wire" exceeds tip of next feather by 62–138, mostly over 80 mm.

The colour of the crown varies a good deal, from chocolate to pale chestnut, partly due to wear and partly individually, but not geographically in India.

There is no colour difference between *smithi* and *filifera*.

***Hirundo daurica erythropygia* Sykes.**

Murray places the Indian Red-rumped Swallow amongst a list which he or his collector added to birds of Sind. It was obtained in November at Pultem. Hume apparently saw the specimen, so that it was probably correctly named, but like all the birds in this list it must be open to doubt since in it appeared five species new to the Indian list which I have ascertained in reality came from Bushire, hence other localities may be mixed. This race, the resident one in the plains, is, so far as I know, not resident in Sind, though it is in Cutch and at Mt. Aboo; stragglers might of course wander into Sind.

***Hirundo daurica rufula* Temm.**

On 18 November, 1919, at Karachi in a sunny corner of the Sewage Farm, haunted in some years by Crag-Martins, I saw two Red-rumped Swallows, one of which I obtained. It is a bird of the year and compares well with similar young of *rufula* from farther west; it is too pale on the chestnut portions of the plumage and too long in the wing (113 mm.) for *erythropygia*. It is rather shorter in wing than most *rufula*, however it is not striated enough on the breast and rump for the young of *nipalensis*.

This is the first occurrence of this race in Sind and the plains of India, but is not unexpected as it is known to breed in northern Beluchistan.

[To be continued.]

XXXV.—On a Collection of Birds from Acheen (Sumatra).

By Baron R. SNOUCKAERT VAN SCHAUBURG, F.M.B.O.U.

VERY little has, to my knowledge, been published on the birds of the most northern part of Sumatra, the ancient Sultanate of Acheen, for many years under Dutch rule. In fact, I only know of Hume's paper in 'Stray Feathers,' 1873, pp. 441-463, on a small collection brought together by